

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Connect America Fund)	WC Docket No. 10-90
)	

COMMENTS OF ADTRAN, INC. ON PETITIONS FOR RECONSIDERATION

ADTRAN, Inc. (“ADTRAN”) takes this opportunity to oppose the Petition filed by Hughes Network Systems, Inc. (“Hughes”) seeking clarification or, in the alternative, reconsideration of the Commission’s decision with regard to performance metrics for recipients of Connect America Fund (“CAF”) universal service support, and to comment on the Petition for Reconsideration filed by Viasat, Inc. (“Viasat”).¹ Hughes contends that the Commission’s decision in the *Performance Metrics Order* to specify the “conversational-opinion” test under the International Telecommunication Union-T (“ITU-T”) Recommendation P.800 should not apply to Hughes’ Connect America Fund (“CAF”) support distributed under the New York Broadband Program. As explained below, ADTRAN believes that such relief would be unjustified and contrary to the public interest.

ADTRAN participated actively in this proceeding over the years with respect to the standards that should govern CAF-supported services, taking the position that:

[W]hen broadband services are being subsidized under the CAF program, both the Commission and subscribers have a legitimate interest in ensuring that the subsidized services actually meet the minimum standards prescribed by the Commission.²

¹ *Connect America Fund*, DA-18-710 (July 6, 2018) (“*Performance Metrics Order*”). Public Notice of the Petitions for Reconsideration of that decision were published in the Federal Register on October 23, 2018, 83 FR 53420.

² Comments of ADTRAN in WC Docket No. 10-90, filed December 6, 2017.

And one of the requirements for CAF-subsidized broadband services established by the Commission pursuant to Section 254 of the Telecommunications Act is the ability to support voice services.³ Moreover, in adopting the specification of the conversational-opinion test in the *Performance Metrics Order* being challenged by Hughes, the Commission observed:

We reiterate the Commission’s requirement that high-latency providers subject to testing must demonstrate a MOS of four or higher. We agree with ADTRAN that listening-opinion tests would not suffice to demonstrate a high-quality consumer voice experience. Latency only minimally affects participants’ experiences and evaluations in listening-opinion tests, which involve passive listening to audio samples. However, in the *USF/ICC Transformation Order*, the Commission required “ETCs to offer sufficiently low latency to enable use of real-time applications, such as VoIP.” Unlike a listening-opinion test, in a conversation-opinion test, two participants actively participate in a conversation. The back-and-forth of conversations highlights delay, echo, and other issues caused by latency in a way that one-way, passive listening cannot. Therefore, we require that high-latency providers conduct an ITU-T Recommendation P.800 conversational-opinion test.⁴

Hughes’ petition, if granted, would vitiate the obligation in the *Performance Metrics Order* to demonstrate that its broadband service is able to support quality voice services.

Hughes makes several arguments in an attempt to justify the requested relief, but none of those arguments withstand scrutiny. Hughes asserts that modifying the performance testing requirements after the separate New York auction “would upset bidders’ expectations and

³ *Connect America Fund et al.*, 26 FCC Rcd 17663 (2011) at ¶¶ 75-85. As the Commission indicated at ¶ 49 of that decision in establishing performance goals for the reformed CAF program to support broadband:

Preserve and Advance Voice Service. The first performance goal we adopt is to preserve and advance universal availability of voice service. In doing so, we reaffirm our commitment to ensuring that all Americans have access to voice service while recognizing that, over time, we expect that voice service will increasingly be provided over broadband networks.

⁴ *Performance Metrics Order* at ¶ 44 (citations omitted).

undermine the results of the auction.”⁵ However, when the Commission established the high-latency option – before the New York auction – the Commission made clear that the ability to support quality voice services was going to be a requirement:

At the same time, we are willing to entertain bids from entities that can only provide high latency, in the interest of making this auction as competitive as possible. For those providers offering high latency services, we emphasize the importance of providing quality voice services. We particularly welcome solutions such as the terrestrial voice service suggested by Viasat. While we do not adopt the MOS scoring metric as a *substitute* for the milliseconds of latency requirement, we believe it can be used to help ensure quality voice service performance for bids designated high latency. Thus, as noted above, in addition to the metrics set forth above, we require that bidders that exhibit high latency must be prepared to demonstrate a MOS of four or higher throughout the term of support. We recognize that the MOS metric is a measure of perceived quality, and require entities taking advantage of this standard to be prepared to submit testing results that are specific to their CAF-funded areas.⁶

Moreover, in granting the waiver to allow CAF subsidies to be utilized as part of the New York Broadband Program, the Commission made clear that the CAF eligibility and oversight requirements would apply – including the demonstration of the capability to support quality voice services.⁷ Thus, Hughes was on notice that in order to receive CAF funding under the

⁵ Hughes Petition at p. 4.

⁶ *Connect America Fund; ETC Annual Reports and Certifications; Rural Broadband Experiments*, 31 FCC Rcd 5949 (2016) at ¶ 33 (citations omitted). *See also*, n. 3, *supra*.

⁷ *Connect America Fund; ETC Annual Reports and Certifications*, 32 FCC Rcd 968 (January 26, 2017) at ¶¶ 12, 13, 26, 48 and 50. Indeed, the Commission indicated in that decision at ¶ 50 (citations omitted, emphasis added):

Second, we clarify that consistent with our goal of preserving and advancing voice service, recipients of Connect America Phase II support, like all other Connect America recipients, will be required to offer a standalone voice service in the areas where they are receiving Connect America support. ***Moreover, recipients of Connect America Phase II support, like all other Connect America recipients, will be required to offer voice and broadband service at latency that is suitable for real-time applications, including Voice over Internet Protocol.*** Connect America recipients in New York that cannot meet the Connect America Phase II auction low latency tier must meet the high latency tier the Commission established for the Connect America Phase II auction. Specifically, such providers will be required to meet a two-part standard for the latency of both their voice

New York Broadband Program, it would be required to demonstrate that it could support quality voice services using the ITU-specified testing process.

Hughes at that time also knew (or should have known) that while the ITU-specified testing process includes a “listening-only” test, the ITU-T Recommendation P.800 also makes clear that the “listening-only” test is not suitable for evaluating two-way transmissions such as voice:

Listening tests have direct applications in the assessment of physical transmission systems which are essentially unidirectional. Examples include broadcast circuits, public address systems and recorded announcement systems in which listening degradations such as loss, noise and distortion may be present. Results of listening-only tests can be applied, but only with certain reservations, to the prediction of the assessment for conversation conducted over a two-way system, such as a connection in a public switched telephone network.⁸

In addition, Hughes was on notice that the issue of which ITU-T Recommendation P.800 testing procedures would be acceptable had been teed up, because ADTRAN had specifically raised that issue in a Petition for Clarification or Reconsideration of the Commission’s CAF Phase II bidding order, filed on July 5, 2016.⁹ In sum, the *Performance Metric Order*’s specification of which ITU-T Recommendation P.800 testing procedures would be acceptable should not have been any surprise to Hughes, and it certainly had no legitimate expectation that it could

and broadband service: (1) the requirement that 95 percent or more of all peak period measurements of network round trip latency are at or below 750 milliseconds, and (2) with respect to voice performance, we require high latency bidders to demonstrate a score of four or higher using the Mean Opinion Score (MOS).

⁸ ITU-T Recommendation P.800 at p. 4.

⁹ Petition for Clarification or Reconsideration of ADTRAN, Inc., WC Docket No. 10-90 et al. (filed July 5, 2016). The ADTRAN petition was filed well before the Phase 3 applications were due for the New York Broadband Program on August 15, 2017.
https://nysbroadband.ny.gov/sites/default/files/finall_introducing_phase_3.pdf

demonstrate its ability to support quality voice services with a test that only measures one-way transmissions, and not conversations.

Hughes also claims that the Commission did not intend for the limitation in the *Performance Metrics Order* on MOS testing to apply to the New York Broadband Program, because the *Performance Metrics Order* did not specifically reference the New York Broadband Program.¹⁰ ADTRAN urges the Commission to reject any such “clarification.” As explained above, the Commission made clear in granting the waiver to allow CAF funding of the New York Broadband Program that any recipients of such funding would be subject to the same eligibility and oversight requirements as all other CAF Phase II recipients.¹¹ There was thus no reason for the Commission to separately address the New York Broadband Program requirements in the *Performance Metrics Order*.

Hughes argues that even if the Commission intends to apply the obligation to require high latency recipients to use the ITU-T Recommendation P.800 conversational-opinion test to demonstrate a score of MOS-4 or better, it should reconsider that decision, claiming that it is contrary to law and without adequate basis.¹² ADTRAN disagrees. As noted above, the decision

¹⁰ Hughes Petition at p. 2.

¹¹ See, n. 7, *supra*. As the Commission indicated at ¶ 26 (emphasis added):

As discussed in more detail below, the Commission will maintain control over the funds at all times, 1) by specifying where Connect America Phase II support can be awarded and placing limitations on how much support can be allocated to those areas, 2) **by ensuring that the recipients are qualified to meet the obligations** and individually authorizing the recipients, 3) by having USAC directly disburse the support to authorized ETCs in monthly installments, 4) **by requiring the recipients to comply with the same level of oversight as all other Connect America Phase II recipients**, and 5) by subjecting the recipients to non-compliance measures if they do not comply [with] the program requirements.

¹² Hughes Petition at pp. 4-7.

is rooted in the universal service principle that subsidized broadband services must also be able to support quality voice services, including real-time VoIP services. And a listening-only test does not measure such a capability.

In the decision on reconsideration of the *Broadband Measurements Order*, the Commission discussed ADTRAN’s Petition for Clarification or Reconsideration.¹³ The Commission indicated that it had not yet specified which of the ITU-T Recommendation P.800 methods could be used to demonstrate compliance with the voice service quality obligation, but would defer to the Bureaus to make that decision. The Commission did indicate that the record on this point was “sparse.”¹⁴ But while the record on this issue is “sparse,” it is certainly adequate to support the Commission’s decision to require a conversational-opinion test. ADTRAN and others had supported such a specification, and ITU-T Recommendation P.800 itself makes clear that a listening-only test is applicable to unidirectional transmissions, and not conversations.

Nor would the imposition of that requirement to the New York Broadband Program recipients constitute retroactive rulemaking. Hughes claims that the specification of the conversational-opinion test would violate the presumption against retroactive rulemaking.¹⁵ But here, the Commission was not promulgating a new rule, but instead was clarifying which of the

¹³ *Connect America Fund et al.*, 33 FCC Rcd 1380 (January 31, 2018) ¶¶ 14-16.

¹⁴ *Ibid* at ¶ 16:

As an initial matter, we clarify that the Commission has not yet specified which of the methods for subjective determination of transmission quality identified in ITU-T Recommendation P.800 should be used to demonstrate compliance with the second part of the two-part standard (MOS of four or higher). Based on the sparse record before us, we decline to do so at this time.

¹⁵ Hughes Petition at pp. 6-7, citing *Bowen* and *Landgraf*.

ITU-T Recommendation P.800 testing procedures could be used to demonstrate the required ability to support quality voice services. As noted above, the Commission made clear in granting New York a waiver of the CAF Phase II rules to allow the declined federal funds to be used in the New York Broadband Program that the CAF Phase II eligibility and oversight requirements would be applied to the New York Broadband Plan recipients. The *Performance Metrics Order* merely clarifies that in meeting one of those requirements – the ability to support real-time VoIP – a recipient cannot rely on a test that does not measure the ability to support real-time voice services.

Moreover, even assuming *arguendo* that the Commission’s specification of the conversational-opinion test constitutes rulemaking, such a categorization still does not mean that it is unlawfully retroactive. In determining whether a rulemaking is unlawfully retroactive, the courts apply a multifactor analysis under the seminal Supreme Court *Landgraf* decision:

Therefore, we proceed to the second *Landgraf* step, which is to ask whether the regulation has retroactive effect. [511 U.S. at 269-70, 280, 114 S.Ct. 1522](#). A law is not retroactive merely because it is applied to conduct before the law was passed or upsets expectations based in prior law. *Id.* at 269. Rather, a law has retroactive effect if it "would impair rights a party possessed when he acted, increase a party's liability for past conduct, or impose new duties with respect to transactions already completed." *Id.* at 280, 114 S.Ct. 1522. Instead of being a "simple or mechanical task," *id.* at 268, 114 S.Ct. 1522, the determination of whether a law operates retroactively requires a "commonsense, functional judgment about whether the new provision attaches new legal consequences to events completed before its enactment," [Martin v. Hadix, 527 U.S. 343, 357-58, 119 S.Ct. 1998, 144 L.Ed.2d 347 \(1999\)](#) (quoting [Landgraf, 511 U.S. at 270, 114 S.Ct. 1483](#)). That judgment is informed by considerations of notice, reliance, and settled expectations. [Landgraf, 511 U.S. at 270, 114 S.Ct. 1522](#).¹⁶

¹⁶ *Durable Manufacturing Co. v. United States Department of Labor*, 578 F.3d 497 (7th Cir. 2009). *Cf., Bellsouth Telecommunications, Inc. v. Southeast Telephone, Inc. and Public Service Commission of Kentucky*, 462 F.3d 650, 650-51 (6th Cir. 2006) ("This hypothetical illustrates a point convincingly pressed by BellSouth in its briefs: that filing an application with an agency does not generally confer upon the applicant an inviolable right to have the agency rule on the application pursuant to the regulations in effect at the time of filing.").

In this situation, Hughes knew before submitting its New York Broadband application that it would be required to demonstrate to the Commission both initially and on an ongoing basis that its broadband service has the capability to support quality voice services, and that the Bureaus would be specifying the details of the performance metrics. And to our knowledge, Hughes has not yet submitted any ITU-T Recommendation P.800 tests to the Commission. In addition, the issue of whether the listening-only test could be used had been specifically raised in ADTRAN's Petition for Clarification or Reconsideration more than a year before applications were due for the New York Broadband Program auction in which Hughes participated. Thus, Hughes had no legitimate expectation that it could rely on a use of a listening-only test that the ITU Recommendation itself indicates is not suited to assessing the quality of two-way transmissions. As a result, under the *Landgraf* factors – notice, reliance and settled expectations -- the *Performance Metrics Order*'s specification of the conversational-opinion test is not an unlawful retroactive rulemaking.

In addition to the Hughes petition, Viasat filed a Petition for Reconsideration that challenged two aspects of the *Performance Metrics Order* – the requirements (i) to retain third parties to conduct performance testing and (ii) to conduct “real-world” tests of latency using procedures specified in ITU-T Recommendation P.800. ADTRAN agrees with Viasat that these two requirements should be altered. The Commission allows other CAF recipients to conduct self-testing, and there is no good reason to prohibit satellite broadband providers not to have that same option. To the extent the Commission is concerned that Viasat (or any other CAF recipient) might not conduct the necessary tests in a forthright manner, presumably the

Commission has the authority to review the underlying testing results. Moreover, the Commission has the authority to penalize any false submissions.¹⁷

ADTRAN also agrees with Viasat that the Commission should allow the testing to occur under laboratory controlled “endpoint” conditions (*e.g.*, test cabinets, environmental and room noise, *etc.* as contemplated in ITU Recommendation P.800 Annex A), so long as the network connection between endpoints is a live network as described in paragraph 45 of the *Performance Metrics Order* – a real satellite hop, real terrestrial at the earth station end, network, production equipment, systems and processes, *etc.*¹⁸ Indeed, in its previous comments in this proceeding, ADTRAN recognized that such “actual” testing could occur in a laboratory setting:

Thus, ADTRAN is not advocating use of a model network in a laboratory setting in lieu of use of the actual network. Rather, ADTRAN proposed that the Commission specify use of a conversational-opinion test, and not a listening-opinion test. The conversation-opinion tests could be conducted using the actual network, *albeit in a controlled setting*.¹⁹

ADTRAN thus supports Viasat's request for this relief as well.

Respectfully submitted,
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¹⁷ 47 U.S.C. §§ 501, et seq.; 47 C.F.R. §§ 1.17, 1.80.

¹⁸ In addition, the provider would need to fully document their setup and test processes to the Commission's satisfaction should they decide to self-test.

¹⁹ ADTRAN Ex Parte Presentation – Connect America Fund, WC Docket No. 10-90 et al., filed January 19, 2018 at p. 2 (emphasis added).